



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0672; Project Identifier MCAI-2020-01606-T; Amendment 39-22228; AD 2022-23-01]

RIN 2120-AA64

Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is superseding Airworthiness Directive (AD) 2020-04-20, which applied to certain De Havilland Aircraft of Canada Limited Model DHC-8-400 series airplanes. AD 2020-04-20 required repetitive inspections of certain parts for discrepancies that meet specified criteria, and replacement as necessary; repetitive inspections of certain parts for damage and wear, and rework of parts; and electrical bonding checks of certain couplings. AD 2020-04-20 also required revising the existing maintenance or inspection program, as applicable, to incorporate new or more restrictive airworthiness limitations. For certain airplanes, AD 2020-04-20 allowed a modification that terminates the repetitive inspections. This AD continues to require the actions in AD 2020-04-20, revises the applicability by adding airplanes, and requires, for certain airplanes, the previously optional rework and retrofit of certain parts of the fuel system. Doing the rework and retrofit terminates the retained initial and repetitive inspections in this AD. This AD was prompted by reports of wear on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules, and by a

determination that a more robust lightning ignition protection design is necessary. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of May 4, 2020 (85 FR 17473, March 30, 2020).

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0672; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; telephone North America (toll-free): 855-310-1013, Direct: 647-277-5820; email thd@dehavilland.com; website [dehavilland.com](https://www.dehavilland.com).

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0672.

FOR FURTHER INFORMATION CONTACT: Joseph Catanzaro, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart

Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7366; email

9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to supersede AD 2020-04-20, Amendment 39-19857 (85 FR 17473, March 30, 2020) (AD 2020-04-20). AD 2020-04-20 applied to certain De Havilland Aircraft of Canada Limited Model DHC-8-400 series airplanes. AD 2020-04-20 required repetitive inspections of certain parts for discrepancies that meet specified criteria, and replacement as necessary; repetitive inspections of certain parts for damage and wear, and rework of parts; and electrical bonding checks of certain couplings. AD 2020-04-20 also required revising the existing maintenance or inspection program, as applicable, to incorporate new or more restrictive airworthiness limitations. For certain airplanes, AD 2020-04-20 allowed a modification that terminated the repetitive inspections. The FAA issued AD 2020-04-20 to address wear on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules, which could reduce the integrity of the electrical bonding paths through the fuel line and components, and ultimately lead to fuel tank ignition in the event of a lightning strike.

The NPRM published in the *Federal Register* on June 9, 2022 (87 FR 35128). The NPRM was prompted by AD CF-2017-04R3, dated April 1, 2020, issued by Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada (referred to after this as the MCAI). The MCAI states that wear has been detected on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules. The MCAI also states that a more robust lightning ignition protection design is necessary. The MCAI states that such wear could reduce the integrity

of the electrical bonding paths through the fuel line and components, and ultimately lead to fuel tank ignition in the event of a lightning strike.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0672.

In the NPRM, the FAA proposed to continue to require the actions in AD 2020-04-20, revise the applicability by adding airplanes, and require, for certain airplanes, the previously optional rework and retrofit of certain parts of the fuel system.

The FAA issued a supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 to supersede AD 2020-04-20. The SNPRM published in the *Federal Register* on August 31, 2022 (87 FR 53424) (the SNPRM). The SNPRM was prompted by the FAA's determination that the NPRM inadvertently limited the proposed new terminating rework and retrofit to airplanes that had accomplished certain service information. In addition, the FAA determined that the optional terminating action specified in AD 2020-04-20, and corresponding credit, should be carried over to this AD. In the SNPRM, the FAA proposed to continue to require the actions in AD 2020-04-20, revise the applicability by adding airplanes, and require, for certain airplanes, the previously optional rework and retrofit of certain parts of the fuel system. The FAA is issuing this AD to address the unsafe condition on these products.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from the Air Line Pilots Association, International (ALPA) who supported the SNPRM without change.

Conclusion

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition

described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comment received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, this AD is adopted as proposed in the SNPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

This AD requires the following service information, which the Director of the Federal Register approved for incorporation by reference as of May 4, 2020 (85 FR 17473, March 30, 2020).

- Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018.
- Bombardier Service Bulletin 84-28-21, Revision C, dated July 13, 2018.
- Bombardier Service Bulletin 84-28-26, Revision A, dated November 29, 2018.
- Q400 Dash 8 (Bombardier) Temporary Revision ALI-0192, dated April 24, 2018.
- Q400 Dash 8 (Bombardier) Temporary Revision ALI-0193, dated April 24, 2018.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 54 airplanes of U.S. registry.

The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions*

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Retained actions from AD 2020-04-20	268 work-hours X \$85 per hour = \$22,780	\$0	\$22,780	\$1,230,120
New actions	Up to 1,747 work-hours X \$85 per hour = Up to \$148,495	\$87,385	Up to \$235,880	Up to \$12,737,520

*Table does not include estimated costs for revising the existing maintenance or inspection program.

The FAA has determined that revising the existing maintenance or inspection program takes an average of 90 work-hours per operator, although the FAA recognizes that this number may vary from operator to operator. In the past, the FAA has estimated that this action takes 1 work-hour per airplane. Since operators incorporate maintenance or inspection program changes for their affected fleet(s), the FAA has determined that a per-operator estimate is more accurate than a per-airplane estimate. Therefore, the FAA estimates the total cost per operator to be \$7,650 (90 work-hours x \$85 per work-hour).

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Will not affect intrastate aviation in Alaska, and
- (3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by:

- a. Removing Airworthiness Directive (AD) 2020-04-20, Amendment 39-19857 (85 FR 17473, March 30, 2020); and

- b. Adding the following new AD:

2022-23-01 De Havilland Aircraft of Canada Limited (Type Certificate previously

held by Bombardier, Inc.): Amendment 39-22228; Docket No. FAA-2022-0672;

Project Identifier MCAI-2020-01606-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2020-04-20, Amendment 39-19857 (85 FR 17473, March 30, 2020) (AD 2020-04-20).

(c) Applicability

This AD applies to De Havilland Aircraft of Canada Limited Model DHC-8-400, -401, and -402 airplanes, certificated in any category, manufacturer serial numbers 4001 and 4003 and subsequent.

(d) Subject

Air Transport Association (ATA) of America Code 28, Fuel.

(e) Reason

This AD was prompted by reports of wear on fuel couplings, bonding springs, and sleeves as well as fuel tube end ferrules and fuel component end ferrules, and by a determination that a more robust lightning ignition protection design is necessary. The FAA is issuing this AD to address such wear, which could reduce the integrity of the electrical bonding paths through the fuel line and components, and ultimately lead to fuel tank ignition in the event of a lightning strike.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Initial Inspection Compliance Times, with New Terminating Action

This paragraph restates the requirements of paragraph (g) of AD 2020-04-20, with new terminating action. For airplanes having serial numbers 4001 and 4003 through 4575

inclusive that, as of May 4, 2020 (the effective date of AD 2020-04-20), have not done the actions specified in Bombardier Service Bulletin 84-28-21: At the applicable times specified in paragraph (g)(1) or (2) of this AD, do the actions specified in paragraphs (h)(1) and (2) of this AD. Accomplishing the terminating action required by paragraph (p) of this AD terminates the initial inspection required by this paragraph.

(1) For all airplanes except those identified in paragraph (g)(2) of this AD: Within 6,000 flight hours or 36 months, whichever occurs first after May 4, 2020 (the effective date of AD 2020-04-20).

(2) For airplanes with an original airworthiness certificate or original export certificate of airworthiness issued on or after May 4, 2020 (the effective date of AD 2020-04-20): Within 6,000 flight hours or 36 months, whichever occurs first after the date of issuance of the original airworthiness certificate or the date of issuance of the original export certificate of airworthiness.

(h) Retained Repetitive Inspections and Corrective Actions, with New Terminating Action

This paragraph restates the requirements of paragraph (h) of AD 2020-04-20, with new terminating action. For airplanes having serial numbers 4001 and 4003 through 4575 inclusive that, as of May 4, 2020 (the effective date of AD 2020-04-20), have not done the actions specified in Bombardier Service Bulletin 84-28-21: At the applicable times specified in paragraph (g)(1) or (2) of this AD, do the actions specified in paragraphs (h)(1) and (2) of this AD. Repeat the actions thereafter at intervals not to exceed 6,000 flight hours or 36 months, whichever occurs first. Accomplishing the terminating action required by paragraph (p) of this AD terminates the repetitive inspections required by this paragraph.

(1) Do a detailed inspection of the clamshell coupling bonding wires, fuel couplings, and associated sleeves for discrepancies that meet specified criteria, as identified in, and in accordance with, paragraph 3.B., “Procedure,” of the

Accomplishment Instructions of Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018. If any conditions are found meeting the criteria specified in Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018, before further flight, replace affected parts with new couplings and sleeves of the same part number, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Bulletin 84-28-20, Revision D, dated November 23, 2018.

(2) Do a detailed inspection of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges for damage and wear, and rework (repair, replace, or blend, as applicable) the parts, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018.

(i) Retained Optional Terminating Action for Repetitive Inspections with No Changes

This paragraph restates the requirements of paragraph (i) of AD 2020-04-20, with no changes. For airplanes having serial numbers 4001 and 4003 through 4575 inclusive: Doing a detailed inspection of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges for damage and wear, and reworking (repair, replace, or blend, as applicable) the parts; and doing a retrofit (structural rework) of the fuel couplings, isolators, and structural provisions, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-21, Revision C, dated July 13, 2018, terminates the inspections specified in paragraphs (h)(1) and (2) of this AD.

(j) Retained Electrical Bonding Checks/Detailed Inspection, with No Changes

This paragraph restates the requirements of paragraph (j) of AD 2020-04-20, with no changes. For airplanes having serial numbers 4001, 4003 through 4489 inclusive, and 4491 through 4575 inclusive that, as of May 4, 2020 (the effective date of AD 2020-04-20), have done the actions specified in Bombardier Service Bulletin

84-28-21, Revision A, dated September 29, 2017; and airplanes having serial numbers 4576 through 4581 inclusive: Within 6,000 flight hours or 36 months after May 4, 2020, whichever occurs first, do the actions specified in paragraph (j)(1) or (2) of this AD.

(1) Accomplish electrical bonding checks of all threaded couplings on the inboard vent lines in the left and right wings, in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-26, Revision A, dated November 29, 2018.

(2) Do a detailed inspection of the fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges for damage and wear, and rework (repair, replace, or blend, as applicable) the parts; and a retrofit (structural rework) of the fuel couplings, isolators, and structural provisions; in accordance with paragraph 3.B., “Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-21, Revision C, dated July 13, 2018.

(k) Retained Revision of the Existing Maintenance or Inspection Program, with No Changes

This paragraph restates the requirements of paragraph (k) of AD 2020-04-20, with no changes. Within 30 days after May 4, 2020 (the effective date of AD 2020-04-20), revise the existing maintenance or inspection program, as applicable, to incorporate the information specified in Q400 Dash 8 (Bombardier) Temporary Revision ALI-0192, dated April 24, 2018; and Q400 Dash 8 (Bombardier) Temporary Revision ALI-0193, dated April 24, 2018. Except as specified in paragraph (l) of this AD, the initial compliance time for doing the tasks in Q400 Dash 8 (Bombardier) Temporary Revision ALI-0192, dated April 24, 2018, is at the time specified in Q400 Dash 8 (Bombardier) Temporary Revision ALI-0192, dated April 24, 2018, or within 30 days after May 4, 2020, whichever occurs later.

(l) Retained Initial Compliance Time for Task 284000-419, with No Changes

This paragraph restates the requirements of paragraph (l) of AD 2020-04-20, with no changes. The initial compliance time for task 284000-419 is at the time specified in paragraph (l)(1) or (2) of this AD, as applicable, or within 30 days after May 4, 2020 (the effective date of AD 2020-04-20), whichever occurs later.

(1) For airplanes having serial numbers 4001 and 4003 through 4575 inclusive: Within 18,000 flight hours or 108 months, whichever occurs first, after the earliest date of embodiment of Bombardier Service Bulletin 84-28-21 on the airplane.

(2) For airplanes having serial numbers 4576 and subsequent: Within 18,000 flight hours or 108 months, whichever occurs first, from the date of issuance of the original airworthiness certificate or original export certificate of airworthiness.

(m) Retained No Alternative Actions, Intervals, or Critical Design Configuration Control Limitations (CDCCLs), with No Changes

This paragraph restates the requirements of paragraph (m) of AD 2020-04-20, with no changes. After the existing maintenance or inspection program has been revised as required by paragraph (k) of this AD, no alternative actions (e.g., inspections), intervals, or CDCCLs may be used unless the actions, intervals, and CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (r)(1) of this AD.

(n) Retained No Reporting Provisions, with No Changes

This paragraph restates the provisions of paragraph (n) of AD 2020-04-20, with no changes. Although Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018, specifies to submit certain information to the manufacturer, this AD does not include that requirement.

(o) Retained Credit for Previous Actions, with No Changes

(1) This paragraph restates the provisions of paragraph (o) of AD 2020-04-20, with no changes. This paragraph provides credit for the actions required by

paragraphs (h)(1) and (2) of this AD, if those actions were performed before May 4, 2020 (the effective date of AD 2020-04-20), using the service information specified in paragraph (o)(1)(i) through (iii) of this AD.

(i) Bombardier Service Bulletin 84-28-20, Revision A, dated December 14, 2016.

(ii) Bombardier Service Bulletin 84-28-20, Revision B, dated February 13, 2017.

(iii) Bombardier Service Bulletin 84-28-20, Revision C, dated April 28, 2017.

(2) For the airplane having serial number 4164, this paragraph provides credit for the initial inspections required by paragraphs (h)(1) and (2) of this AD, if those actions were performed before May 4, 2020 (the effective date of AD 2020-04-20), using Bombardier Service Bulletin 84-28-20, dated September 30, 2016.

(3) This paragraph provides credit for the actions specified in paragraph (i) of this AD if those actions were performed before May 4, 2020 (the effective date of AD 2020-04-20), using the service information specified in paragraph (o)(3)(i) through (iii) of this AD.

(i) Bombardier Service Bulletin 84-28-21, dated August 31, 2017.

(ii) Bombardier Service Bulletin 84-28-21, Revision A, dated September 29, 2017.

(iii) Bombardier Service Bulletin 84-28-21, Revision B, dated June 8, 2018.

(4) This paragraph provides credit for the actions required by paragraph (j)(1) of this AD if those actions were performed before May 4, 2020 (the effective date of AD 2020-04-20), using Bombardier Service Bulletin 84-28-26, dated August 14, 2018.

(5) This paragraph provides credit for the actions required by paragraph (j)(2) of this AD if those actions were performed before May 4, 2020 (the effective date of AD 2020-04-20), using Bombardier Service Bulletin 84-28-21, Revision B, dated June 8, 2018.

(6) For airplanes having serial numbers 4001, 4003 through 4489 inclusive, and 4491 through 4575 inclusive, and that are post Bombardier Service Bulletin 84-28-21, Revision A, dated September 29, 2017: This paragraph provides credit for the actions required by paragraph (j) of this AD if those actions were performed before May 4, 2020 (the effective date of AD 2020-04-20), using the service information specified in paragraph (o)(6)(i) or (ii) of this AD.

(i) Bombardier Modification Summary Package (ModSum) IS4Q2800032, dated February 1, 2018.

(ii) Any airworthiness limitation change request (ACR) specified in figure 1 to paragraph (o)(6)(ii) of this AD.

Figure 1 to paragraph (o)(6)(ii) – ACRs

ACR Number	Dated
400-072	January 24, 2018
400-073	January 23, 2018
400-074	January 24, 2018
400-077	February 27, 2018
400-078	March 21, 2018
400-079	April 18, 2018
400-080	April 30, 2018
400-081	May 4, 2018
400-082	May 4, 2018
400-083	June 4, 2018
400-084	May 18, 2018

(p) New Rework and Retrofit

For airplanes having serial numbers 4001 and 4003 through 4575 inclusive: At the applicable time specified in paragraph (p)(1) or (2) of this AD, rework (repair, replace, or blend, as applicable) the parts (fuel tube end ferrules, fuel component end ferrules, and ferrule O-ring flanges); and do a retrofit (structural rework) of the fuel couplings, isolators, and structural provisions; in accordance with Part B of paragraph 3.B.,

“Procedure,” of the Accomplishment Instructions of Bombardier Service Bulletin 84-28-21, Revision C, dated July 13, 2018. Accomplishing these actions terminates the initial and repetitive inspections required by paragraphs (g) and (h) of this AD.

(1) For airplanes with greater than 20,000 total flight hours as of the effective date of this AD: Do the actions within 6,000 flight hours or 36 months after the effective date of this AD, whichever occurs first.

(2) For airplanes with less than or equal to 20,000 total flight hours as of the effective date of this AD: Do the actions within 8,000 flight hours or 48 months after the effective date of this AD, whichever occurs first.

(q) New Credit for Previous Actions

This paragraph provides credit for the actions required by paragraph (p) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraph (q)(1), (2), or (3) of this AD.

(1) Bombardier Service Bulletin 84-28-21, dated August 31, 2017.

(2) Bombardier Service Bulletin 84-28-21, Revision A, dated September 29, 2017.

(3) Bombardier Service Bulletin 84-28-21, Revision B, dated June 8, 2018.

(r) Additional AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the New York ACO Branch, mail it to ATTN: Program Manager, Continuing Operational Safety, at the address identified in paragraph (s)(2) of this AD or email to: 9-avs-nyaco-cos@faa.gov. If mailing

information, also submit information by email. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer:* For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada Civil Aviation (TCCA); or De Havilland Aircraft of Canada Limited's TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(s) Additional Information

(1) Refer to TCCA AD CF-2017-04R3, dated April 1, 2020, for related information. This TCCA AD may be found in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0672.

(2) For more information about this AD, contact Joseph Catanzaro, Aerospace Engineer, Airframe and Propulsion Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7366; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (t)(4) and (5) of this AD.

(t) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(3) The following service information was approved for IBR on May 4, 2020 (85 FR 17473, March 30, 2020).

(i) Bombardier Service Bulletin 84-28-20, Revision D, dated November 23, 2018.

(ii) Bombardier Service Bulletin 84-28-21, Revision C, dated July 13, 2018.

(iii) Bombardier Service Bulletin 84-28-26, Revision A, dated November 29, 2018.

(iv) Bombardier Q400 Dash 8 (Bombardier) Temporary Revision ALI-0192, dated April 24, 2018.

(v) Q400 Dash 8 (Bombardier) Temporary Revision ALI-0193, dated April 24, 2018.

(4) For service information identified in this AD, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; telephone North America (toll-free): 855-310-1013, Direct: 647-277-5820; email thd@dehavilland.com; website dehavilland.com.

(5) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(6) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on October 25, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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